

### Remarks

#### Amendments to the Specification and Drawings

The specification and drawings are amended herein to correct errors of a typographical or editorial nature, and to bring the specification and drawings into conformity. No new matter is introduced by any of the amendments herein, and entry thereof is requested.

Reconsideration of the application, as amended, is requested.

#### Drawings Objections under 37 CFR 1.84(p)(5)

The drawings were objected to, the Examiner asserting that “they do not include the following reference characters) mentioned in the description: 832.”

Additionally, the drawings were objected to, the Examiner asserting that “they include the following reference characters not mentioned in the description: 11, 43, 47, 142, 50, 52, 313, 305, 306, 86, 90 and 92.”

The Examiner required correction of the drawings, or amendment of the specification.

Application thanks the Examiner for attention to the details of the specification. The specification and drawings are amended herein to correct errors of a typographical or editorial nature, and to bring the drawings and specification into conformity, as detailed below. No new matter is introduced by any of the amendments, and entry thereof is requested.

As to the first objection, reference numeral **832** is in fact included in FIG. **8D**, with lead lines indicating the wire bonds **832** electrically connecting the die **834** to the top package substrate **835**. Accordingly this objection should be withdrawn.

Certain of the reference characters said not to be mentioned in the specification are in fact described in the specification as filed. Particularly:

An “adhesive **43**” is described at paragraph [0026], at line 26 on page 6;

An embodiment of a multi-package module is shown “generally at **50**” is described at paragraph [0097], at line 21 on page 19;

An “MPM **52**” is described at paragraph [00113] at line 24 on page 24;

“[V]ias **142**” are described at paragraph [0026] at line 18 on page 6;

An “underfill **313**” is described at paragraph [00136] at line 32 on page 31. Accordingly the objections as to these reference numerals (43, 50, 52, 142, 313) should be withdrawn.

As to reference characters not mentioned in the specification, the specification and drawings are amended as follows:

- **11** -- is inserted following “BGA” in paragraph [0018];
- **47** -- is inserted following “encapsulated” in paragraph [0025];
- “**84**” is replaced with -- **86** -- in paragraph [00177];
- **90, 92** -- is inserted following “embodiments of the invention” in paragraph [00180];
- “**355**” is replaced with -- **305** --, “**356**” is replaced with -- **306** --, and “**354**” is replaced with -- **304** -- (paragraph [00165]) to make the text consistent with the reference numeration of FIG. **8C** and to avoid use of any reference numeral to identify more than one feature. It is noted that metal layer **355** is sandwiched between dielectric layers **354, 356** in bottom package substrate **342** (*see, e.g.*, paragraph [00157], Figs. **8A, 8B, 8C**). Accordingly, Fig. **8B** is amended to make the reference numeration consistent with that of Fig. **8C**, by replacing the instances of reference numerals **354, 355, 356** that are directed to the lower planar part and the legs or sidewalls of the heat spreader, and the adhesive by which the heat spreader is affixed to the substrate, with, respectively, numerals **304, 305, 306**;

In Figs. **7A, 7B** and **7C**, the lead line from reference numeral **315** is moved, to indicate the “solder mask”, *see* paragraph [00140]. It is noted that reference numeral **313** indicates the underfill, *see* paragraph [00136].

The objections as to these reference numerals (11, 47, 86, 90, 92, 305, 306, 313) can now be withdrawn.

Additionally, Fig. **6B** is amended herein by insertion of missing reference numeral **406**, and **407** (2 instances), to be consistent with the description and with the reference numeration of Fig. **6A**.

Double Patenting

Claims 1 - 20, 37 and 38 were rejected under the judicially created doctrine of obviousness-type double patenting over claim 1 of U.S. Patent No. 6,906,416. The Examiner stated:

Although the claims are not identical, they are not patentably distinct from each other because instant application and the patent both recite an inverted second package (i.e. upper package) stacked on a first package (i.e. lower package).

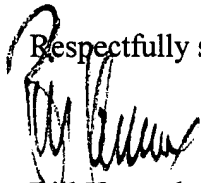
This is not well understood. The Examiner has not articulated how Applicant's invention as claimed would have been obvious over claim 1 of the reference patent (U.S. 6,906,416). It is not enough to state, as the Examiner has here, what may be recited in both the application claims and the patent claim. An obviousness analysis must follow, identifying the differences between the claims of the application and the claims of the reference patent, and stating reasons why those differences would have been obvious to the person of ordinary skill in the art. Because no obviousness analysis has been made here, Applicant cannot agree with the Examiner's double patenting rejection of the claims of the Application over claim 1 of the reference patent.

Applicant submits herewith a Terminal Disclaimer and a fee therefor, and accordingly this Double Patenting rejection should be withdrawn.

All the claims in the application are believed to be in condition for allowance, and action to that effect is respectfully requested.

If the Examiner determines that a conference would facilitate prosecution of this application, the Examiner is invited to telephone Applicant's representative, undersigned, at the telephone number set out below.

Respectfully submitted,

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**Appendix**

Replacement sheet[s]

Annotated sheet[s] showing changes

### **Amendments to the Drawings**

The attached sheets of drawings include changes to FIGs. 6B, 7A, 7B, 7C and 8B. Sheet 5 / 20, which includes FIGs. 6A and 6B, replaces original sheet 5 / 20 including FIGs. 6A and 6B; sheet 6 / 20, which includes FIGs. 7A and 7B, replaces original sheet 6 / 20, including FIGs. 7A and 7B; sheet 7 / 20, which includes FIG. 7C, replaces original sheet 7 / 20, including FIG. 7C; sheet 8 / 20, which includes FIGs. 8A, 8B and 8C, replaces original sheet 8 / 20, which includes FIGs. 8A, 8B and 8C. In FIG. 6B previously omitted reference numerals 406 and 407 (2 instances) are added. In FIG. 7A, 7B and 7C, the lead line running from reference numeral 315 is repositioned. In FIG. 8B reference numerals 304, 305 (2 instances) and 306 (two instances) replace erroneous instances of reference numerals 354, 355 and 356, respectively.

Attachment: Replacement sheets 5 / 20, 6 / 20, 7 / 20, 8 / 20  
Annotated sheet[s] showing changes



CPAC 1029-5

5 / 20

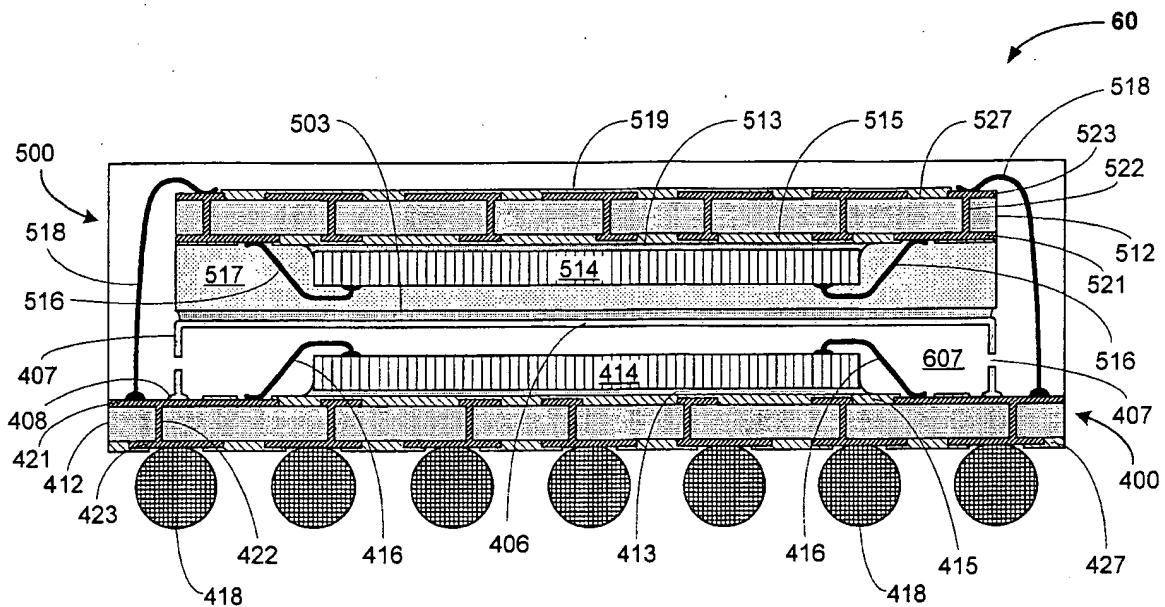


Fig. 6A

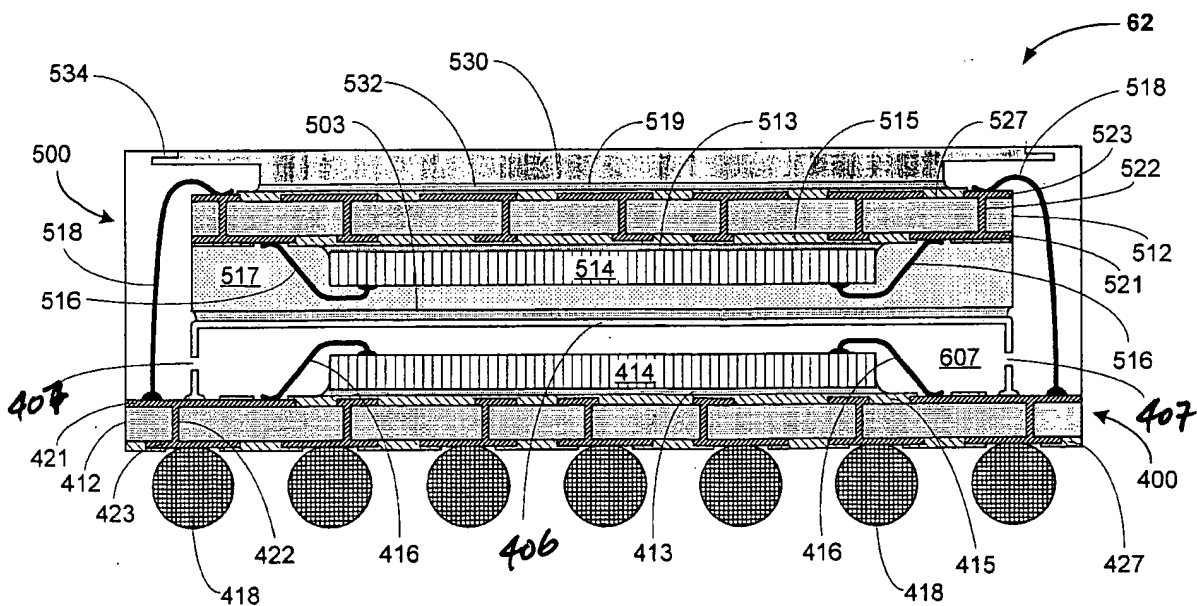


Fig. 6B

CPAC 1029-5

Annotated Sheet Showing Changes

6 / 20

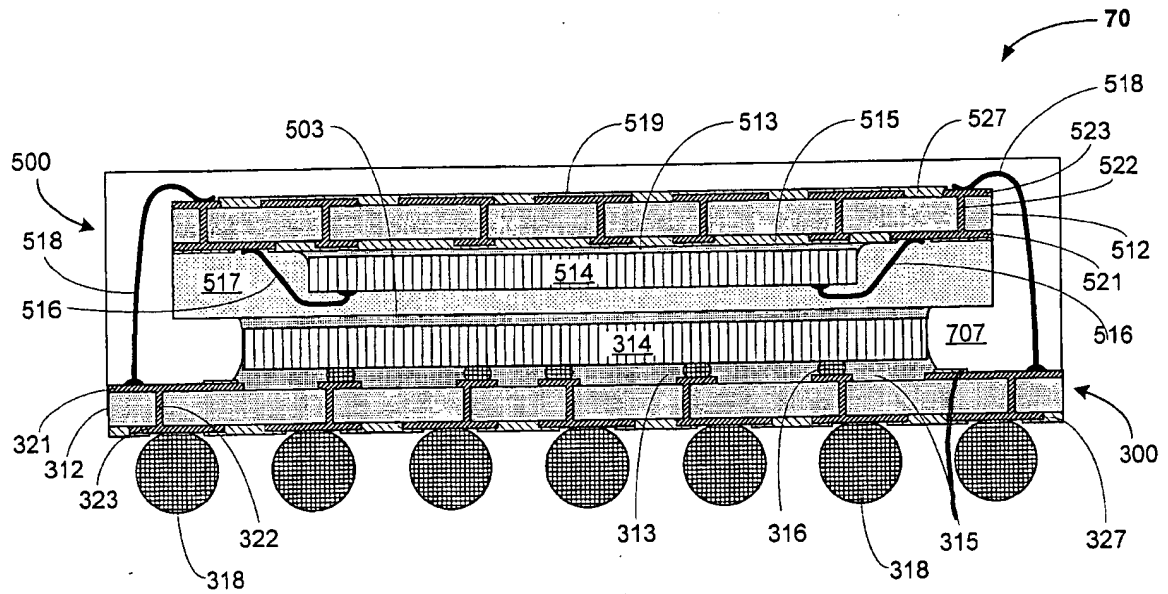


Fig. 7A

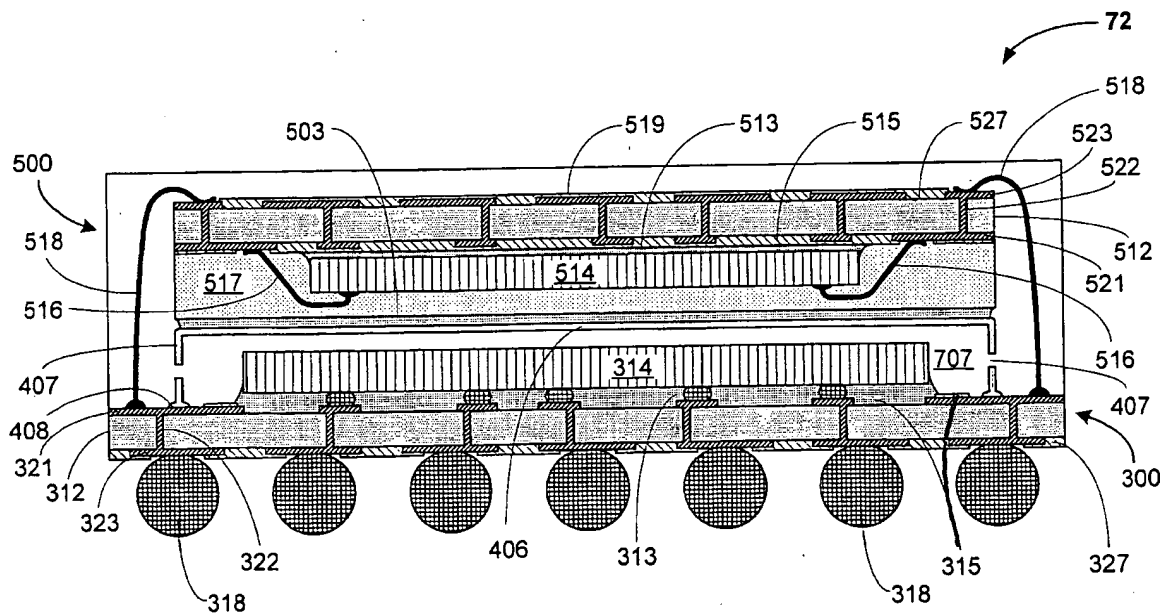


Fig. 7B



CPAC 1029-5

Annotated Sheet Showing Changes

7 / 20

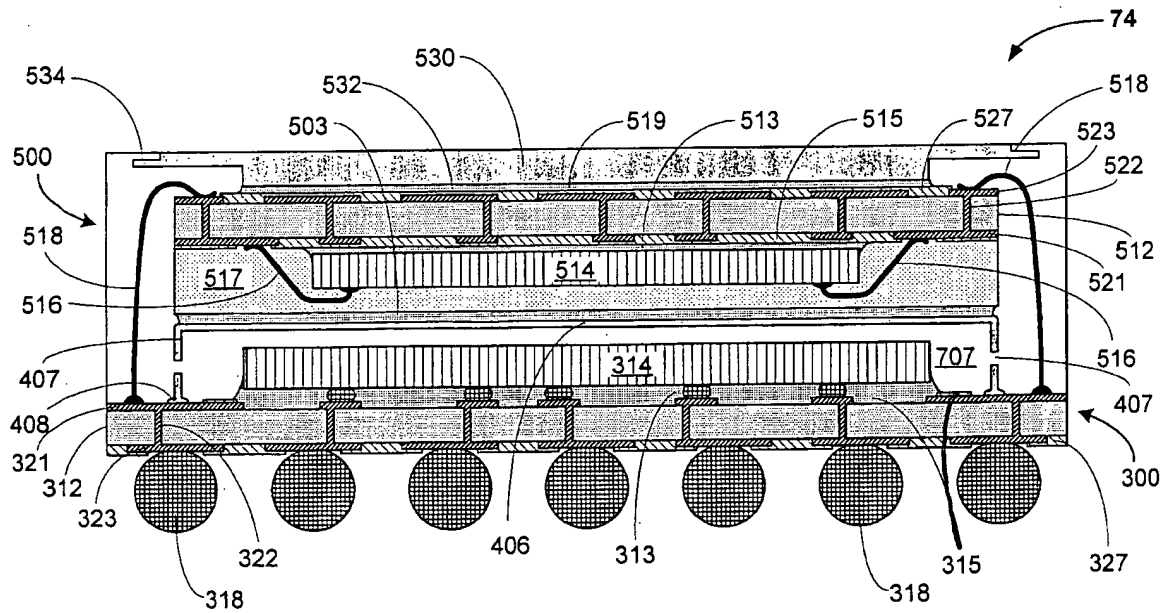


Fig. 7C

CPAC 1029-5

Annotated Sheet Showing Changes

8 / 20

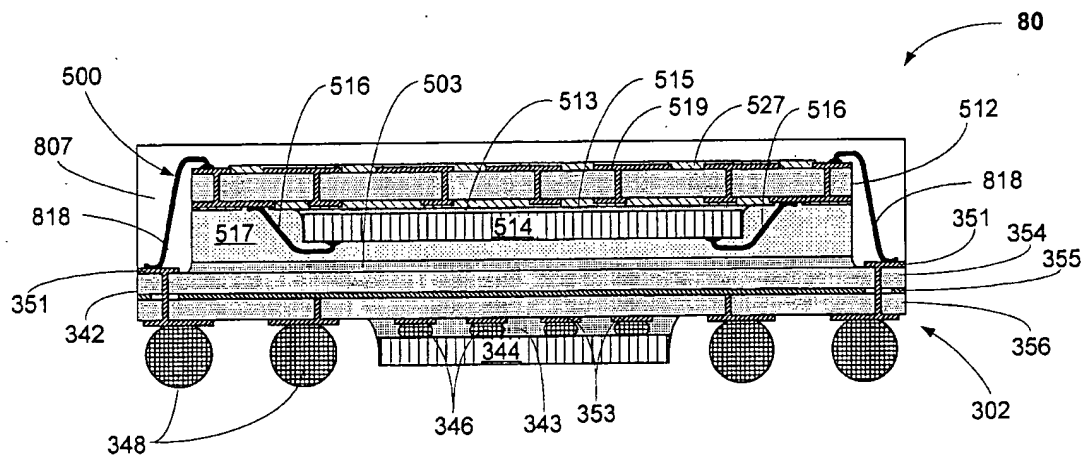


Fig. 8A

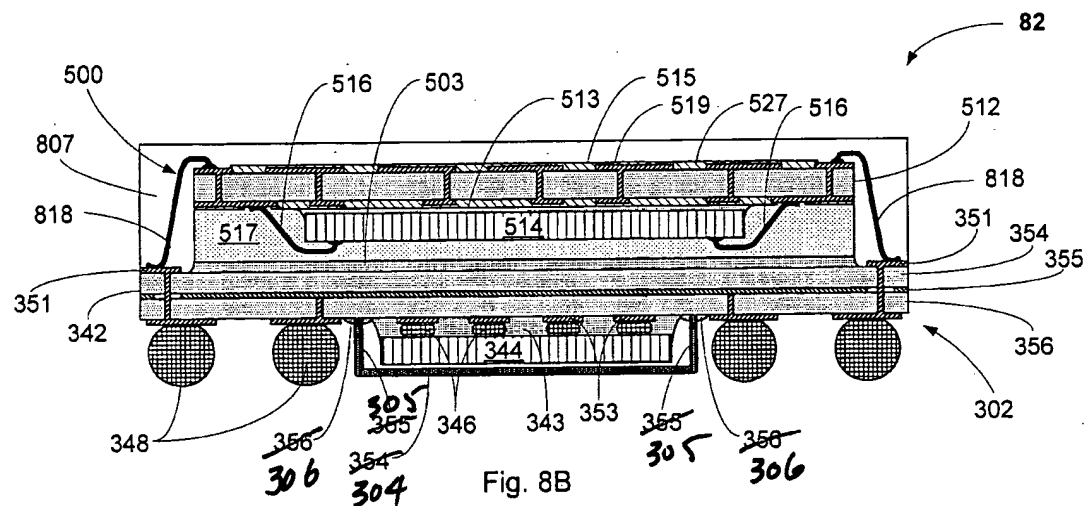


Fig. 8B

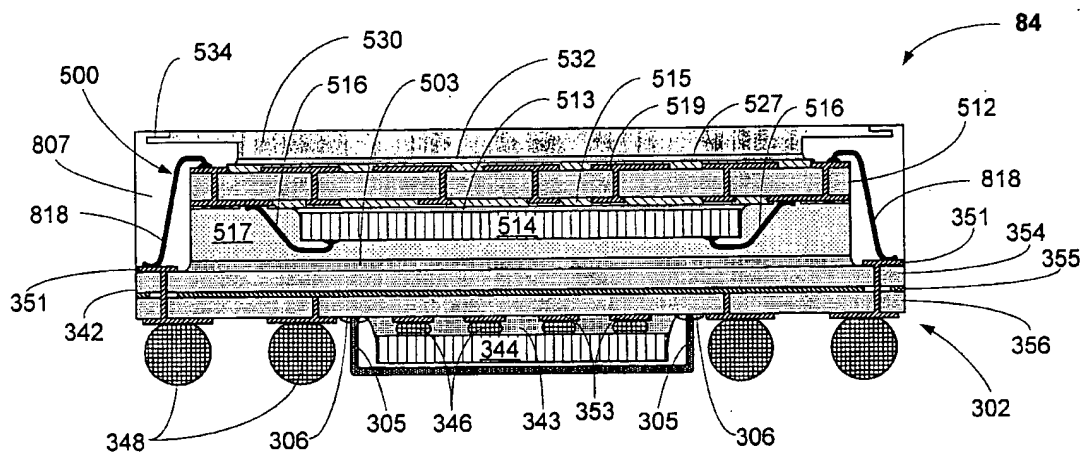


Fig. 8C